

Course Number

IEE 320

Course Title

Extreme Excel

Credits

1

Faculty

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Prerequisites

- Should have access to a Windows PC or Apple Mac with Microsoft Office 2015 or later installed.
- Mac users can not complete the Week 5 assignment Pivot Chart question. Excel for the Mac, even the 2015 version, does not have this feature. Mac users will need to borrow a friend's PC or use one of ASU's lab PCs to complete this question.
- Knowledge of basic Excel and Microsoft Office software.

Computer Requirements

This course requires a computer with Internet access and the following:

- Web browsers ([Chrome \(Links to an external site.\)](#), [Internet Explorer \(Links to an external site.\)](#), [Mozilla Firefox \(Links to an external site.\)](#), or [Safari \(Links to an external site.\)](#))
- [Adobe Acrobat Reader \(Links to an external site.\)](#) (free)
- [Adobe Flash Player \(Links to an external site.\)](#) (free)
- Microphone (optional) and speaker
- Microsoft Excel Windows version 2010 or later
- Microsoft Excel Mac version 2015 or later
- Mac users with Excel versions older than 2015 will need to download the Analysis Tool Pack from the following source: [http \(Links to an external site.\)://www.analystsoft.com/en/products/statplumacle/](http://www.analystsoft.com/en/products/statplumacle/)
- All Mac users will need to find a PC to complete the Week 5 assignment's Pivot Chart question.

Catalog Description

This is a Microsoft Excel class based on practical skills needed by engineers and business people in industry.

Course Overview

Today's workplace environment for engineers demands advanced skills in using worksheet applications such as Microsoft Excel. This one credit course addresses this important gap in the curriculum to provide support for students who are in need of training on the various capabilities of the software. In particular, students will become familiar with various functionalities that are critical for performing their jobs as Engineers.

Learning Outcomes

At the completion of this course, students will be able to:

- Navigate through the Excel software
- Identify and effectively use important Excel formulas for engineers
- Use Excel data analysis functions to analyze large data sets
- Make, copy, and edit charts and graphs
- Properly structure a spreadsheet and workbook for engineering purposes including reuse and continuation
- Manage large quantities of data using advanced Excel functionality
- Use key shortcuts to rapidly solve engineering problems in Excel
- Learn Excel beyond the materials covered in this class

Readings, Special Materials, Assignments, and Exams

This class consists of 30+ voice over computer lectures that are approximately 10 to 40 minutes in length. This format allows students to watch the lectures while following along with Excel on their own computer. These short lectures make it easy for students to find and redo lectures on key topics. Assignments are due at the end of each week of lectures (beginning with Week 2) allowing the students to apply the various tools that are covered in this class.

Exams

There are no exams in this class.

Assignments

Seven assignments will be presented during the semester. Some of the assignments are worth 10 points, others are worth 20 points. One assignment includes 5 extra credit points. Each student will have a unique set of data to work the assignments. The data is traceable. Although students may wish to study the class topics in small groups to help facilitate the learning of Excel, the assignments are to be performed and submitted individually. With the exception of Week 8, all assignments are due on Friday of that week, no later than 10:00pm Arizona Time. I will accept assignments up to 2 days late; however, I will take 20% off for one day late, and 40% off for two days late. Week 8, last week of class, might not end on a Friday! Check the ASU semester calendar and due date for the Week 8 assignment. Because it is due on the last day of classes for the session, it will not be accepted late even with the penalty.

Because the assignments are available on the first day, and can be submitted early, I will not accept any excuses for late assignments. Because there are only 7 assignments, missing one assignment will severely impact the final grade in the class.

I urge students to complete this course in three to four weeks rather than taking the entire 7 or 8 weeks. All of the recorded lectures and assignments are available on the first day. Students should try to complete the course and submit all of the assignments before their other courses' exams begin.

Written Assignment Integrity

Each student will have unique and traceable data for their assignments. Copying is not permitted.

Course Materials Integrity

The assignment files, lecture example files, videos, and all other materials used in this course are the property of Daniel R. McCarville and Arizona State University and are copyright protected. They can NOT be copied, given to a friend, uploaded to an internet site, or distributed in any way.

Grading

| Grade | Percentage | Points Range |
|-------|------------|--------------|
| A | 90 – 100% | 90– 105 |
| B | 80 – 89% | 80 – 89 |
| C | 70 – 79% | 70 – 79 |
| D | 60 – 69% | 60 – 69 |
| E/F | Below 60% | 59 and below |

Communications

This course uses Discussions for general questions about the course. Students can ask each other questions or post questions to the Teaching Associate and Instructor. Prior to posting a question, please check the syllabus, announcements, and existing posts. If you do not find an answer, post your question. You are encouraged to respond to the questions of your classmates.

Email questions of a personal nature to your instructor or assigned TA. You can expect a response within 48 hours.

Online Course

This is an online course. There are no face-to-face meetings. You can log into your course via MyASU or <https://my.asu.edu> ([Links to an external site.](#)).

Email and Internet

ASU email is an [official means of communication \(Links to an external site.\)](#) among students, faculty, and staff. Students are expected to read and act upon email in a timely fashion. Students bear the responsibility of missed messages and should check their ASU-assigned email regularly.

All instructor correspondence will be sent to your ASU email account. If you auto-forward your ASU emails to your personal email account, you might not receive emails from the instructor. I strongly suggest you remove this auto-forward feature!

Course Time Commitment

This one-credit course requires approximately 40 hours of work. Please expect to spend around 5 hours each week preparing for and actively participating in this course.

Late or Missed Assignments

Notify the instructor **BEFORE** an assignment is due if an urgent situation arises and the assignment will not be submitted on time. Published assignment due dates (Arizona Mountain Standard time) are firm. Please follow the appropriate University policies to request an [accommodation for religious practices \(Links to an external site.\)](#) or to accommodate a missed assignment [due to University-sanctioned activities \(Links to an external site.\)](#).

Submitting Assignments

All assignments, unless otherwise announced, **MUST** be submitted to the designated area of Blackboard. Do not submit an assignment via email.

Drop and Add Dates/Withdrawals

This course adheres to a compressed schedule and may be part of a sequenced program, therefore, there is a limited timeline to [drop or add the course \(Links to an external site.\)](#). Consult with your advisor and notify your instructor to add or drop this course. If you are considering a withdrawal, review the following ASU policies: [Withdrawal from Classes \(Links to an external site.\)](#), [Medical/Compassionate Withdrawal \(Links to an external site.\)](#), and a [Grade of Incomplete \(Links to an external site.\)](#).

Grade Appeals

Grade disputes must first be addressed by discussing the situation with the instructor. If the dispute is not resolved with the instructor, the student may appeal to the department chair per the [University Policy for Student Appeal Procedures on Grades \(Links to an external site.\)](#).

Academic Integrity

Students in this class must adhere to ASU's academic integrity policy, which can be found at [https://provost.asu.edu/academic-integrity/policy \(Links to an external site.\)](https://provost.asu.edu/academic-integrity/policy). Students are responsible for reviewing this policy and understanding each of the areas in which academic dishonesty can occur. In addition, all engineering students are expected to adhere to both the ASU Academic Integrity [Honor Code \(Links to an external site.\)](#) and the Fulton Schools of Engineering [Honor Code \(Links to an external site.\)](#). All academic integrity violations will be reported to the Fulton Schools of Engineering Academic Integrity Office (AIO). The AIO maintains record of all violations and has access to academic integrity violations committed in all other ASU college/schools. Course content, including lectures, are copyrighted materials and students may not share outside the class, upload to online websites not approved by the instructor, sell, or distribute course content or notes taken during the conduct of the course (see [ACD 304-06 \(Links to an external site.\)](#), "Commercial Note Taking Services" and ABOR Policy [5-308 F.14 \(Links to an external site.\)](#) for more information).

You must refrain from uploading to any course shell, discussion board, or website used by the course instructor or other course forum, material that is not the student's original work, unless the students first comply with all applicable copyright laws; faculty members reserve the right to delete materials on the grounds of suspected copyright infringement.

[Students are entitled to receive instruction free from interference \(Links to an external site.\)](#) by other members of the class. An instructor may withdraw a student from the course when the student's

behavior disrupts the educational process per [Instructor Withdrawal of a Student for Disruptive Classroom Behavior \(Links to an external site.\)](#).

Appropriate online behavior (also known as *netiquette*) is defined by the instructor and includes keeping course discussion posts focused on the assigned topics. Students must maintain a cordial atmosphere and use tact in expressing differences of opinion. Inappropriate discussion board posts may be deleted by the instructor.

Students cannot share their assignments with anyone. The assignments cannot be uploaded to websites or given to tutoring services. The assignments are copyright protected.

The Office of Student Rights and Responsibilities accepts [incident reports \(Links to an external site.\)](#) from students, faculty, staff, or other persons who believe that a student or a student organization may have violated the Student Code of Conduct.

Prohibition of Commercial Note Taking Services

In accordance with [ACD 304-06 Commercial Note Taking Services \(Links to an external site.\)](#), written permission must be secured from the official instructor of the class in order to sell the instructor's oral communication in the form of notes. Notes must have the notetaker's name as well as the instructor's name, the course number, and the date.

Policy against threatening behavior, per the Student Services Manual, SSM 104-02

Students, faculty, staff, and other individuals do not have an unqualified right of access to university grounds, property, or services. Interfering with the peaceful conduct of university-related business or activities or remaining on campus grounds after a request to leave may be considered a crime. All incidents and allegations of violent or threatening conduct by an ASU student (whether on- or off-campus) must be reported to the ASU Police Department (ASU PD) and the Office of the Dean of Students.

Course Evaluation

Students are expected to complete the course evaluation. The feedback provides valuable information to the instructor and the college and is used to improve student learning. Students are notified when the online evaluation form is available.

Disability Accommodations.

Suitable accommodations will be made for students having disabilities. Students needing accommodations must register with the ASU Disabilities Resource Center and provide documentation of that registration to the instructor. Students should communicate the need for an accommodation in sufficient time for it to be properly arranged.

[Qualified students with disabilities may be eligible to receive academic support services and accommodations \(Links to an external site.\)](#). Eligibility is based on qualifying disability documentation and assessment of individual need. Students who believe they have a current and essential need for disability accommodations are [responsible for requesting accommodations and providing qualifying documentation \(Links to an external site.\)](#) to the DRC. Every effort is made to provide reasonable accommodations for qualified students with disabilities.

Qualified students who wish to request an accommodation for a disability should contact the DRC by going to <https://eoss.asu.edu/drc> ([Links to an external site.](#)), calling (480) 965-1234 (480) 965-1234 or emailing DRC@asu.edu. To speak with a specific office, please use the following information:

ASU Online and Downtown Phoenix Campus

University Center Building, Suite 160
602-496-4321 602-496-4321 (Voice)

Polytechnic Campus

480-727-1165 480-727-1165 (Voice)

West Campus

University Center Building (UCB), Room 130
602-543-8145 602-543-8145 (Voice)

Tempe Campus

480-965-1234 480-965-1234 (Voice)

Harassment and Sexual Discrimination

Arizona State University is committed to providing an environment free of discrimination, harassment, or retaliation for the entire university community, including all students, faculty members, staff employees, and guests. ASU expressly prohibits discrimination, harassment, and retaliation by employees, students, contractors, or agents of the university based on any protected status: race, color, religion, sex, national origin, age, disability, veteran status, sexual orientation, gender identity, and genetic information.

Title IX is a federal law that provides that no person be excluded on the basis of sex from participation in, be denied benefits of, or be subjected to discrimination under any education program or activity. Both Title IX and university policy make clear that sexual violence and harassment based on sex is prohibited. An individual who believes they have been subjected to sexual violence or harassed on the basis of sex can seek support, including counseling and academic support, from the university. If you or someone you know has been harassed on the basis of sex or sexually assaulted, you can find information and resources at <https://sexualviolenceprevention.asu.edu/faqs> ([Links to an external site.](#)).

As a mandated reporter, I am obligated to report any information I become aware of regarding alleged acts of sexual discrimination, including sexual violence and dating violence. ASU Counseling Services, <https://eoss.asu.edu/counseling> is available if you wish to discuss any concerns confidentially and privately. ASU online students may access 360 Life Services, <https://goto.asuonline.asu.edu/success/online-resources.html>.

Computer Requirements

This course requires a computer with Internet access and the following:

- Web browsers ([Chrome \(Links to an external site.\)](#), [Internet Explorer \(Links to an external site.\)](#), [Mozilla Firefox \(Links to an external site.\)](#), or [Safari \(Links to an external site.\)](#))
- [Adobe Acrobat Reader \(Links to an external site.\)](#) (free)
- [Adobe Flash Player \(Links to an external site.\)](#) (free)
- Microphone (optional) and speaker
- Microsoft Excel version 2010 or later

Technical Support

This course uses Canvas to deliver content. It can be accessed through MyASU at <http://my.asu.edu> (Links to an external site.) or the Canvas home page at <https://myasucourses.asu.edu>. To monitor the status of campus networks and services, visit the System Health Portal at <http://syshealth.asu.edu/> (Links to an external site.).

To contact the help desk call toll-free at 1-855-278-5080 1-855-278-5080 FREE.

Student Success

This is an online course. To be successful:

- check the course daily
- read announcements
- read and respond to course email messages as needed
- complete assignments by the due dates specified
- communicate regularly with your instructor and peers
- create a study and/or assignment schedule to stay on track

Syllabus Disclaimer

Any information in this syllabus (other than grading and absence policies) may be subject to change with reasonable advance notice.

Recommended Timing for the Semester

| Lecture | Topic | Windows Menu | Mac Menu |
|---------|-------------------------------|--------------|---------------|
| 1 | Introduction | | |
| 2 | Windows Overview | | |
| 2 | Windows Load Analysis ToolPak | | |
| 3 | Basic Math | Home | Edit/Home |
| 4 | Copy and Paste | Home | Edit/Home |
| 5 | Right Click Features | Home | Edit/Home |
| 5 | Basic Shortcuts | Home | Edit/Home |
| 5 | Copy Down | Home | Edit/Home |
| 6 | Spreadsheet Structure | Home | Edit/Home |
| 6 | Freeze Panes | View | Window/Layout |
| 7 | Formatting | Home | Home |
| 7 | Format Painter | Home | Home |
| 7 | Conditional Formatting | Home | Home |
| 8 | General Formulas | Formulas | Formulas |
| 9 | Financial | Formulas | Formulas |
| 9 | Be careful, always validate! | Formulas | Formulas |
| 10 | Statistical | Formulas | Formulas |
| 11 | Text | Formulas | Formulas |
| 12 | Date & Time | Formulas | Formulas |
| 13 | Linear Algebra and Matrices | Formulas | Formulas |
| 14 | Lookup and Reference | Formulas | Formulas |
| 15 | Logical | Formulas | Formulas |
| 16 | Information | Formulas | Formulas |
| 17 | Multiple Functions | Formulas | Formulas |
| 18 | Sort | Data | Data |
| 19 | Filter | Data | Data |
| 19 | Advanced Filter | Data | Data |
| 20 | Text to Columns | Data | Data |

| | | | |
|----|--|--------|--------|
| 21 | Pivot Table | Insert | Data |
| 22 | Charts | Insert | Charts |
| 22 | Editing Charts | Insert | Charts |
| 23 | Data Analysis - Correlation Matrix | Data | Data |
| 23 | Data Analysis - Covariance Matrix | Data | Data |
| 24 | Data Analysis - Descriptive Statistics | Data | Data |
| 24 | Data Analysis - Histogram | Data | Data |
| 25 | Data Analysis - Regression | Data | Data |
| 26 | Data Analysis - t-Test | Data | Data |
| 27 | Data Analysis - ANOVA | Data | Data |
| 28 | Data Analysis - Random Number Generation | Data | Data |
| 29 | Alternate Random Number Generation | | |
| 30 | Inserting New Comments | Review | Review |
| 30 | Protect Sheet | Review | Review |
| 31 | McCarville's Favorite Shortcuts | | |
| 32 | Workbook Structure | | |
| 33 | Introduction to VBA Macro Recording | View | Tools |
| 34 | Modifying VBA in Recorded Macros | View | Tools |
| 35 | Writing basic VBA commands | View | Tools |
| 36 | Data Cleanup | | |
| 37 | Closing Remarks | | |